AMENDMENTS TO THE CLAIMS

1. (original) A homogeneous assay for the determination of aflatoxins in agricultural products, said homogeneous assay comprising the steps of:

extracting aflatoxin from a sample to provide an extract;

combining said extract with a tracer and an antibody to provide a mixture, said antibody being specific for aflatoxin, said tracer comprising an aflatoxin oxime conjugated to a fluorophore, said tracer being able to bind to said antibody to produce a detectable change in fluorescence polarization;

measuring the fluorescence polarization of said mixture to obtain a measured fluorescence polarization; and

comparing said measured fluorescence polarization with a characterized fluorescence polarization value, said characterized fluorescence polarization value corresponding to a known aflatoxin concentration.

2. (original) The assay of claim 1, wherein said step of extracting aflatoxin from a sample to provide an extract comprises the steps of:

crushing said sample to provide a crushed sample; and

shaking said crushed sample with an extraction solvent for a predetermined time.

3. (original) The assay of claim 2, wherein said extraction solvent comprises an organic solvent and water.

4. (original) The assay of claim 3, wherein said organic solvent is methanol.

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5. (original) The assay of claim 1, wherein said fluorophore is selected from the group consisting of fluoresceinamine, 5-aminoacetyl-amidofluorescein, and 5-(5-aminopentyl)-thioureidyl fluorescein.

6. (original) The assay of claim 5, wherein said fluorophore is an isomer of fluoresceinamine.

7. (original) The assay of claim 6, wherein said fluorophore is isomer 2 of fluoresceinamine.

8. (original) The assay of claim 1, wherein said aflatoxin oxime is (Aflatoxin B_1)-O-carboxymethyloxime.

9. (original) The assay of claim 1, further comprising the steps of:

providing a plurality of aflatoxin standard solutions, each of said aflatoxin standard solutions having a different known concentration of aflatoxin;

adding said tracer and said antibody to each one of said plurality of aflatoxin standard solutions, so as to provide a plurality of standard mixtures; and

measuring the fluorescence polarization of each one of said plurality of said standard mixtures to provide a plurality of standard fluorescence polarization values corresponding to known aflatoxin concentrations.

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10. (original) The assay of claim 9, wherein said characterized fluorescence polarization value is one of said standard fluorescence polarization values.

11. (currently amended) An assay kit for the determination of aflatoxins in agricultural products in a homogeneous assay, said assay kit comprising:

an antibody and a tracer, each in an amount suitable for at least one assay, and suitable packaging, said antibody being specific for aflatoxin, said tracer comprising an aflatoxin oxime conjugated to a fluorophore, said tracer being able to bind to said antibody to produce a detectable change in fluorescence polarization in a homogeneous assay.

12. (original) The assay kit of claim 11, further comprising an extraction solvent for extracting aflatoxin from a sample.

13. (original) The assay kit of claim 12, wherein said extraction solvent comprises an organic solvent and water.

14. (original) The assay kit of claim 13, wherein said organic solvent is methanol.

15. (original) The assay kit of claim 11, wherein said fluorophore is selected from the group consisting of fluoresceinamine, 5-aminoacetyl-amidofluorescein, and 5-(5-aminopentyl)-thioureidyl fluorescein.

16. (original) The assay kit of claim 15, wherein said fluorophore is fluoresceinamine.

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17. (original) The assay kit of claim 16, wherein said fluorophore is isomer 2 of fluoresceinamine.

18. (original) The assay kit of claim 11, wherein said aflatoxin oxime is (Aflatoxin B_1)-O-carboxymethyloxime.

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